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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/023,375	12/18/2001	Lawrence J. DaQuino	10010792-1	2452

7590 12/19/2005

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EXAMINER

LAM, ANN Y

ART UNIT PAPER NUMBER

1641

DATE MAILED: 12/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/023,375	DAQUINO ET AL.	
	Examiner	Art Unit	
	Ann Y. Lam	1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 29-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 29-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 7, 2005 has been entered.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1. Claims 1-17 and 29-35 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6, 10, 18, 20, 26, 29-31 and 34 of U.S. Patent No. 6,935,727, in view of Beerling et al., 6,508,536.

Patent '727 teaches all the elements of the claims in the current application. Patent '727 teaches an orifice plate (see for example, claim 1), a plurality of thermal printhead dies (see for example, claim 1 and 12 and 13) and a volume of fluid that includes a biopolymer such as polypeptides (see claim 10 and 18).

However, Patent '727 does not claim that each printhead die comprises a plurality of resistors and is bonded to the plate. Beerling et al. teaches these limitations however.

Beerling et al. teach a printhead comprising a plate (20) and a plurality of printhead dies each including an array of resistor (40) and is bonded to a plate (20), see fig. 5. Beerling et al. teach that the resistor fires fluid from the printhead(col. 2, lines 66). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide resistors as taught by Beerling et al. in the invention taught by the claims in Patent '727 because Beerling et al. teach that the resistors provide the means for firing fluid from the printhead.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1641

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 6-13, 15-17, 29-33 and 35 are rejected under 35 U.S.C.

103(a) as being unpatentable over Beerling et al., 6,508,536, in view of McDevitt et al., 6,713,298.

Beerling et al. disclose the invention substantially as claimed. More specifically, as to claims 1, 10 and 29, Beerling et al. disclose a pulse jet printhead () comprising:

(a) a multiple die printhead (12) comprising:

(i) an orifice plate (20 and 58, see col. 4, lines 15-17) comprising a plurality of orifices (38); and

(ii) a plurality of thermal printhead dies (18, see col. 2, lines 46-48) present on a surface of said orifice plate in operational alignment with said orifices to produce at least one firing chamber; and

(b) a volume of an aqueous fluid (40, col. 3, line 42) in said at least one firing chamber.

However, Beerling et al. do not teach that the fluid is a biopolymer. McDevitt et al. teach this limitation.

McDevitt et al. teach that an array of biopolymers such as DNA and proteins (col. 4, lines 41-44, and col. 5, lines 10-12, 48-50, and 55-59) can be applied onto a substrate through a dispense head that is made using technology essentially identical to that used in "ink-jet" printer heads (col. 101, lines 26-34.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a sample of DNA or proteins as the fluid in the Beerling et al. printhead because McDevitt et al. teach that providing DNA or proteins in ink-jet printer head technology, such as that taught by Beerling et al., provide the advantage of ejecting DNA or proteins such that a sensor array is formed.

As to the following claims, Beerling et al. teach the limitations as follows.

As to claims 2-4, 11-13 and 31-33 the printhead comprises from 2 to about 10 printhead dies, or 2 to 5 printhead dies, or 3 printhead dies (col. 2, lines 46-48 and see fig. 1.)

As to claim 8, said printhead is present in a printhead assembly that further includes at least one fluid reservoir (36) in fluid communication with said firing chamber.

As to claims 6, 7, 9, 15, 16, 17, 30 and 35, McDevitt et al. teach that the biopolymer is polypeptides or nucleic acids (col. 5, lines 55-58.)

3. Claims 5, 14 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beerling et al., 6,508,536, in view of McDevitt et al., 6,713,298, as applied to claim 1, 10 and 30, and further in view of Gordon et al., 5,855,835.

Beerling et al. in view of Schultz et al. disclose the invention substantially as claimed (see above). Although Beerling et al. teach a substrate, Beerling et al. do not teach that the substrate material is a semiconductor.

Gordon et al. teaches a thermal jet printhead (col. 2, lines 65-66) wherein the resistor is formed on a substrate (20) that is made of semiconductor (col. 3, lines 5-6). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize semiconductor as taught by Gordon et al. as the material to form the substrate generally disclosed by Beerling et al. because Gordon et al. teaches that semiconductor material is a known material used to form a substrate for a resistor in a thermal jet printhead, such as that disclosed by Beerling et al.

Response to Arguments

Applicant's arguments filed November 7, 2005 have been fully considered but they are moot in view of the new grounds of rejection.

(Examiner notes that Applicant's arguments with respect to the Kennedy reference used in the previous Office action are not persuasive because Applicant does not state that the orifices and resistors in the different printhead dies draw fluid from different reservoirs. In any case, new grounds of rejections are made in this Office action that more clearly disclose multiple printhead dies.)

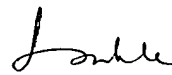
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ann Y. Lam whose telephone number is 571-272-0822. The examiner can normally be reached on M-Sat 11-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A.L. 


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12/08/05